

What is claimed is:

1. A washing machine comprising:

an outer tub disposed in a casing for receiving washing water therein;

an inner tub rotatably disposed in the outer tub for receiving laundry

5 therein; and

a plasma discharge unit for performing a plasma discharge on the washing water.

2. The washing machine of claim 1, wherein the plasma discharge

10 unit includes:

an inflow passage connected to the outer tub for introducing washing water inside the outer tub;

a discharge box for receiving washing water introduced through the inflow passage and having a space where a plasma discharge is performed;

15 an electrode disposed at the discharge box; and

a high voltage generator electrically connected to the electrode for applying a voltage to the electrode.

3. The washing machine of claim 2, wherein a filter for filtering

20 washing water is installed at the inflow passage.

4. The washing machine of claim 2, further comprising a circulation unit for re-circulating washing water inside the discharge box into the outer tub.

5. The washing machine of claim 4, wherein the circulation unit includes:

a circulation duct of which one end is connected to the discharge box
5 and another end is connected to the outer tub; and

a circulation pump disposed at the circulation duct for pumping washing water.

6. The washing machine of claim 2, further comprising a spray
10 nozzle connected to the inflow passage and disposed in the discharge box, for expandably spraying washing water introduced through the inflow passage into the discharge box.

7. The washing machine of claim 2, wherein a dielectric particle for
15 accelerating a plasma discharge is disposed in the discharge box.

8. The washing machine of claim 2, further comprising a catalyst for changing a pH level of washing water at the time of a plasma discharge in the discharge box.

20

9. The washing machine of claim 8, wherein at least one of $\gamma\text{-Al}_2\text{O}_3$, TiO_2 , ZrO_3 , glass pellet, and etc. is used as the catalyst.

10. The washing machine of claim 8, wherein the catalyst is TiO_2 .

11. The washing machine of claim 2, further comprising a contamination degree sensor for detecting a contamination degree of washing
5 water is disposed in the outer tub.

12. The washing machine of claim 2, further comprising an air supply unit for supplying air into the discharge box.

10 13. The washing machine of claim 2, wherein the discharge box is divided into a first space and a second space, the electrode is composed of a first electrode disposed to be adjacent to the first space and a second electrode disposed to be adjacent to the second space, and a first catalyst for increasing a pH level of washing water at the time of a plasma discharge is disposed in the
15 first space and a second catalyst for decreasing a pH level of washing water at the time of a plasma discharge is disposed in the second space.

14. The washing machine of claim 13, wherein at least one of $\gamma\text{-Al}_2\text{O}_3$, ZrO_3 , and glass pellet is used as the catalyst.

20 15. The washing machine of claim 13, wherein the second catalyst is TiO_2 .

16. The washing machine of claim 13, further comprising an air supply unit for supplying air into the discharge box.

17. The washing machine of claim 13, further comprising a
5 circulation unit for re-circulating washing water inside the discharge box into the outer tub.

18. The washing machine of claim 17, wherein the circulation unit includes:

10 a circulation duct of which one end is connected to the discharge box and another end is connected to the outer tub; and

a circulation pump connected to the circulation duct for pumping the washing water.

15 19. The washing machine of claim 13, wherein a dielectric particle for accelerating a plasma discharge is disposed in the discharge box.

20. The washing machine of claim 13, wherein a filter for filtering washing water is disposed at the inflow passage.

20

21. The washing machine of claim 13, further comprising a contamination degree sensor for detecting a contamination degree of washing water in the outer tub.